

ABSTRACT

Structures including piezoelectric actuators, actuator arrays, and deformable mirrors and processes for fabricating the structures are provided. The fabrication processes can manufacture arrays of actuators including piezoelectric materials using wafer-processing techniques. The actuators include piezoelectric layers sandwiched between electrodes that are mounted on flexures that provide electrical connections. The piezoelectric layers can be formed on sacrificial layers while flexures are formed in trenches or vias through the sacrificial layers. Removal of the sacrificial layers frees the piezoelectric layer and permits the piezoelectric layers to dish or warp when providing the actuator action. Alternative embodiments include actuators that are bimorphs or RAINBOWs.